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EXAMINER

JAMAL, ALEXANDER

ART UNIT PAPER NUMBER

2643

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DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/733,803

Applicant(s)

HAHM ET AL.

Examiner

Alexander Jamal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date February 7th, 2001.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. **Claims 2,6,18** objected to because of the following informalities:

- a. **Claim 2:** 'Shied' should be 'Shield'
- b. **Claims 6,18:** 'get' should be 'getting'

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 1,10,6,18** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. **Claims 1,10** state 'each of said buttons are freely pushed right and left'. The applicant's specification (Fig 3) shows that the buttons may be pressed in a rightward-downward or leftward-downward direction in order to close a right or left switch, however, they do not move 'freely' left or right, they are limited by arms 22 (fig. 3). It is not clear what is meant by 'freely pushed right or left'.

- b. **Claims 6 and 18** state 'wherein when the left buttons of the plurality of the push buttons are pushed, the right and left projections push...'. It is not clear what the term 'left buttons' is referring to, nor is it clear from the specification how pushing a left button would affect the remaining plurality of buttons. Examiner assumes applicant was referring to pushing the left or right edges of the buttons downward.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1,3-8** rejected under 35 U.S.C. 102(e) as being anticipated by Tso et al.

(6157323).

a. **Claim 1:** Tso discloses a keypad (Fig. 1) that may be used in a telephone (Col 4 lines 1-16), with the buttons arranged in rows and columns in a grid shape, the keypad comprising:

- i. Each button is able to be moved leftwards or rightwards
- ii. Each button has two associated switches to connect or disconnect an electrical flow (Col 6 lines 50-62).
- iii. Each button can be pushed leftwards or rightwards to complete the connection of either a left or right side switch respectively. If the middles of the push buttons are pushed then both the left and right switches are connected (Col 6 lines 32-47).

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- b. **Claims 3, 4:** The surface of Tso's buttons may be concave or convex (Col 2 lines 40-61).
 - c. **Claim 5:** Tso's keypad buttons are surrounded and supported by a rubber skirt to form the switches. This is a membrane tactile method. (Col 2 line 62 to Col 3 line 7).
 - d. **Claim 6:** Tso's buttons comprise two projections (the left and right sides of the projection 125 in Fig. 1) that overly each button. These are made out of rubber (Col 2 line 62 to Col 3 line 7) so that while the left or right switches are being activated, the button is being tilted left or right, and the left or right side respectively of the projections is getting folded (Fig. 6).
 - e. **Claim 7:** Tso's keypad is operable to assign two letters, numbers or special keys for every two switches (for each button), and matching one of the alphabet letters when both switches are pushed together (Col 6 line 63 to Col 7 line 13).
 - f. **Claim 8:** Tso discloses a mode of operation where switches match various letters by discriminating the case where a switch is pushed (closed) for a longer or shorter time than a given time (Col 8 lines 55-65).
6. **Claims 10,11,13,15-20** rejected under 35 U.S.C. 102(e) as being anticipated by Tso et al. (6157323).
- a. **Claim 10:** Tso discloses a keypad apparatus (Fig. 1) that may be used in a telephone (Col 4 lines 1-16), with the buttons arranged in rows and columns in a grid shape, the keypad apparatus comprising:

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- i. Each button has two associated switches to connect or disconnect an electrical flow (A switch input means) (Col 6 lines 50-62).
 - ii. A microprocessor comprises switch detecting means and controller means, to detect the state of the switches and convert them into a data format (Col 6 lines 60-63).
 - iii. A display (Col 3 lines 8-15) to display the contents of the input data.
 - iv. Each button is able to be moved leftwards or rightwards to actuate one of two switches positioned at the left and right of the button (Fig. 2).
 - v. Each button can be pushed leftwards or rightwards to complete the connection of either a left or right side switch respectively. If the middles of the push buttons are pushed then both the left and right switches are connected (Col 6 lines 32-47).
- b. **Claim 11:** Tso's device may be used on a telephone. A telephone inherently comprises a buzzer (speaker) for the purpose of allowing the user to communicate with (listen to) the network. Tso's microprocessor will detect the switch actuation and output the appropriate digit. In the case of a wireline telephone, this number will translate into a dtmf signal and be put on the telephone line (a predetermined rule according to the contents of the data transmitted from the microprocessor). This signal is generated through the speaker.
- c. **Claim 13:** In Tso's apparatus, the switch detecting means will disregard the detection of other switches, and only accept the actuation of the first switch (after all

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switches have been depressed) and the actuation of the second switch opposite to the first (under the same button) as a continuous input. In his example (Col 7 line 40 to Col 8 line 37) if the #2 button is pressed, the only possible results from the switch detector are the letters A,B,C which depend upon only the switches under the #2 button being used as continuous inputs.

d. Claims 15/16: The surface of Tso's buttons may be concave or convex (Col 2 lines 40-61).

e. Claim 17: Tso's keypad buttons are surrounded and supported by a rubber skirt to form the switches. This is a membrane tactile method. (Col 2 line 62 to Col 3 line 7).

f. Claim 18: Tso's buttons comprise two projections (the left and right sides of the projection 125 in Fig. 1) that overly each button. These are made out of rubber (Col 2 line 62 to Col 3 line 7) so that while the left or right switches are being activated, the button is being tilted left or right, and the left or right side respectively of the projections is getting folded (Fig. 6).

g. Claim 19: Tso's keypad is operable to assign two letters, numbers or special keys for every two switches (for each button), and matching one of the alphabet letters when both switches are pushed together (Col 6 line 63 to Col 7 line 13).

h. Claim 20: Tso discloses a mode of operation where switches match various letters by discriminating the case where a switch is pushed (closed) for a longer or shorter time than a given time (Col 8 lines 55-65).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 2** rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. (6157323) as applied to claim 1 above, and further in view of Lissner et al. (6636606).

a. **Claim 2:** Tso discloses applicant's claim 1, but does not disclose the keypad comprising a shield wall between the buttons in order to discriminate the plurality of buttons.

Lissner discloses a keypad button guard to discriminate between a set of keypad buttons (ABSTRACT, Fig. 2 and 3). He discloses that the guard may prevent accidental depressing of the buttons. It would have been obvious to one of ordinary skill in the art at the time of this application to apply a shield wall between Tso's keypad buttons for the advantage of helping to prevent accidental button pushing.

9. **Claim 9** rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. (6157323) as applied to claims 1,7,8 above, and further in view of Collins (5903630).

a. **Claim 9:** Tso discloses applicant's claims 1,7,8, and discloses buttons that match letters by discriminating the cases where the button is pushed for longer or shorter than a

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given time (Col 8 lines 55-65), but does not disclose using a box or circular hoop on the button surface to distinguish the special operation (length of button press) buttons from other non special operation buttons.

Collins discloses a telephone with the indicators 'OPER' on the #0 key on a telephone keypad. He teaches this is used to indicate the special operation of the #0 key to automatically call the operator (Col 1 lines 5-32). It would have been obvious to one of ordinary skill in the art at the time of this application for Tso to mark the keys with the 'length of button press' special function with indicators such as letters (which comprise box or circular hoops) for the purpose of indicating to the user which buttons had that special function

10. **Claim 12** rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. (6157323) as applied to **claim 10** above, and further in view of Morgenthaler (6310609).

a. **Claim 12:** Tso discloses applicant's claim 10 but does not disclose using a lamp to light or unlight depending on data transmitted from the switch detecting means (a microprocessor).

Morgenthaler teaches a telephone comprising multiple lights that will illuminate after receiving a first detected pressed-button input to indicate to the user which set of keys will produce a valid result in the current mode of operation. The lights are lit or unlit according to the particular mode/step that the user has entered into (which depends upon the previously pressed buttons). He teaches that this method will help a user to navigate through a command sequence more quickly and without the use of a manual

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(Col 5 lines 42-52). It would have been obvious to one of ordinary skill in the art at the time of this application to provide a lamp (or lamps) to light or unlight depending upon the particular mode (the mode being dependant upon the contents of the data detected from previous button presses) for the purpose of helping a user to navigate through a command sequence more quickly and without the use of a manual.

11. **Claim 14** rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. (6157323) as applied to **claim 10** above, and further in view of Lissner at al. (6636606).

a. Tso discloses applicant's claim 10, but does not disclose the keypad comprising a shield wall between the buttons in order to discriminate the plurality of buttons.

Lissner discloses a keypad button guard to discriminate between a set of keypad buttons (ABSTRACT, Fig. 2 and 3). He discloses that the guard may prevent accidental depressing of the buttons. It would have been obvious to one of ordinary skill in the art at the time of this application to apply a shield wall between Tso's keypad buttons for the advantage of helping to prevent accidental button pushing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ
February 20, 2004



DUC NGUYEN
PRIMARY EXAMINER